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ABSTRACT

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This study examined the role of study abroad programs on a students' cross-cultural awareness. Twenty-four students were enrolled in a study abroad course participated in the study. The students' cross-cultural awareness was assessed prior to and after study abroad using the Cross Cultural Adaptability Inventory test (CCAI). It was hypothesized that students studying abroad would score higher on all the CCAI scales including emotional resilience, flexibility and openness, perceptual acuity, and personal autonomy than the control group. All hypotheses were supported by the results, indicating that a period of study abroad enhanced the students' cross cultural awareness. This also suggests the predictive validity of the CCAI. Three tables are included: "Means and Standard Deviations of CCAI Scores for the Experimental Group"; "Means and Standard Deviations of CCAI Scores for the Control Group"; and "Means and Standard Deviations of CCAI Scores for the Control and Experimental Groups." (Contains 21 references.) (Author/KFT)



Running Head: STUDY ABROAD PROGRAMS

Studying Abroad: Does it Enhance College Student Cross-Cultural Awareness?

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Abstract

The present study examined the role of the study abroad programs on student's cross-cultural awareness. Twenty-four students enrolled in a study abroad course, and in a course offered on campus were asked to participate and all agreed. The student's cross-cultural awareness was assessed prior to and after completion of the course using the Cross-Cultural Adaptability Inventory (CCAI). It was hypothesized that students studying abroad would score higher on all the CCAI subscales including Emotional Resilience, Flexibility and Openness, Perceptual Acuity and Personal Autonomy than the control group participants taking the course at home. All hypotheses were supported by the results, indicating that this study abroad program enhanced the students' cross-cultural awareness. The potential for predictive validity of the CCAI was also suggested in this setting.



Studying Abroad: Does it Enhance College Student Cross-Cultural Awareness?

The number of undergraduate students participating in study abroad programs has increased significantly in the past decade (Carlson, Bum, Useem, & Yachimowicz, 1991).

During the 1999-2000 academic year, 129, 770 students form the United States studied abroad. This number shows a 13.9 percent increase from the previous year (NAFSA: Association of International Educators). Study abroad programs are defined as all educational programs that take place outside the geographical boundaries of the country of origin. Educational justifications for study abroad programs include increases in students' level of awareness of the interdependence of nations, value of diversity, development of global perspective and the importance of international understanding. Further, it is also postulated that students who attend study abroad programs become more competitive in the job market, and develop both language proficiency and lifelong friendships. The present study examines the effects of a study abroad program on students' overall cultural sensitivity to function successfully in another country.

Cross cultural effectiveness has been defined as the ability to use communication and cognitive skills (Hammer, Gudykunst, & Wiseman, 1978), interpersonal skills (Kealey, 1989), and ones' psychological and sociocultural adjustment, (Searle &Ward, 1990; Ward & Searle, 1991). It is associated with the development of cultural empathy and communication competence, and traits of flexibility and patience. (Cui and Van Den Berg, 1991). The concept of cross-cultural effectiveness is a complex one involving the ability to maintain a positive attitude while fitting into the new social network and deciphering the inherent logic of the foreign setting.

The benefits of cross-cultural effectiveness have been documented primarily through training with international students or expatriate business managers. For example, Ward, Berno



and Main (2000) demonstrated that emotional resilience, flexibility/openness, perceptual acuity, and personal autonomy were related to psychological and socio-cultural adaptation of foreign students. Similarly, in business settings, Montagliani and Giacalone (1998) proposed a relationship between impression management and cross-cultural adaptation. Expatriate business managers are often thwarted due to misinterpretations inherent in cross-cultural issues. Results suggest that impression management tendencies may be related to the ability to adapt cross-culturally. Further, Goldstein and Smith (1999) in an investigation to determine the effects of indepth cross-cultural training on the cross-cultural effectiveness of 42 student sojourners, found that students who attended the training program exhibited greater cross-cultural adaptability than those who were not trained. Successful students showed significant improvement on the dimension of Emotional Resilience and Flexibility/ Openness.

However, a few studies have attempted to empirically investigate the impact of the study abroad programs on students' cross-cultural effectiveness. In a comprehensive review, Sell (1983) indicates that little research has been conducted on attitude change of US students studying abroad, and that attitude change is not consistently confirmed in these studies. Most studies have focused on adjustment and attitudes of international students in the United States (Ward at al. Flack, 1976). Nash (1976) study provides some support for significant changes in personality as a result of a study abroad program. It was reported that students enrolled in overseas program exhibited higher autonomy and expansion and differentiation of self that a comparable control group. No differences were shown however, in either increased tolerance and flexibility, or self-assurance and confidence. The researchers also found that the significant changes on personality did not persist several months after the return of the overseas group. In addition, Hensley and Sell (1979) found that students attending a study abroad program showed



modest attitude changes in regard to worldmindedness and support for the United Nations, selfesteem, and tolerance of ambiguity as compared to a control group.

In a more recent study, McCabe (1994) investigated change along five dimensions of a global perspective prior and after of a semester at sea program: "fear versus openness", "people as the same or different versus people as the same and different", naivety versus crosscultural knowledge and understanding", pro or anti-Americanism versus pro and anti-Americanism", and ethnocentrism versus globalcentrism. The results revealed that the program positively influenced the students' development of the global perspective. Students were more open towards other cultures, recognized that differences between cultures and qualities across cultures, showed greater cultural understanding, saw Americanism as an entity that includes both positive and negative elements and exhibited a higher level of globalcentrism. This study emphasizes that providing students with experiential opportunities to develop a global perspective should be one of the major objectives of any study abroad programs.

Overall the results of most of these studies confirm some benefits associated with study abroad programs frequently claimed by proponents of study abroad programs. However, it seems to be a lack of operational definitions and a consensus of what is being measured. A variety of different quantitative and qualitative instruments were employed to collect data reporting no reliability and validity of the measures used. In addition, most of these measures are quite out of date administered primarily in the 50s or 60s. Another potential problem with these studies may be the failure to control for the environment abroad, which in turn may influence the direction of attitude change. Researchers claim that theoretically important variables such as the degree of satisfaction with the experiences in the host country (Helman, 1970), the contact with the



nationals, preconceptions and motivations (Kelman, 1974) and enjoyment of the program (Salter & Teger) may influence attitude change.

The purpose of this study was to investigate the effects of a study abroad program on students' ability to adapt to living effectively in another culture and to interact effectively with people of the dominant culture. It attempted to address these limitations by using a valid and reliable instrument to measure changes in the students' cross cultural adaptability, the Cross Cultural Adaptability Inventory (CCAI). The CCAI is a versatile, user-friendly, self-scoring instrument with substantiated reliability, and content and construct validity. In addition, all students in the present program were provided with the same well-planned intercultural experiences while abroad.

It was hypothesized that students enrolled in a study abroad program including taking a class with students from the host country would score higher on the Emotional Resilience, Flexibility/Openness, Perceptual Acuity and Personal Autonomy subscales of the CCAI than the control group participants enrolled in a regular university class. The assumption made was that the study abroad program objectives would serve as a default training period that would have a positive impact on students' ability to adapt in another culture. It was also hypothesized that there would be no significant differences between student's overall assessment of their ability to interact with people from other cultures and their observer's perceptions of this capability. Finally, it was expected that the CCAI scale would be highly correlated with the students' satisfaction of the study abroad program.



Methods

Participants

Thirteen students enrolled in a study aboard program and 11 students enrolled in a graduate course at a large southeastern institution were asked to participate in the present study. The university committee on human subjects approved the study and all students (N=24) agreed to participate and signed an informed consent. Of the 13 students in the study abroad program, 6 resided in the country where the course was hosted and 7 resided in different states in the United States. The study abroad group consisted of seniors and graduate students enrolled in a summer health psychology course. Their ages range from 20 to 26 with a mean of 23. The students enrolled in a psychology course offered on campus were 10 first year graduate students and one advanced. Their ages ranged from 22 to 32 with a mean of 24. The students in the graduate course 8 classified themselves to be Caucasian and 3 classified themselves as African-Americans. Over 50% of the classes were composed of female students.

Description of the Program: Two main instructors taught the course, one from the local university and one from the States. For all classroom activities students were paired with students from the opposite culture to maximize contact, an essential element for adapting successfully in another culture. Seven educational trips were organized as part of the curriculum to interact with people from the local culture.

Measures

Personal Data Questionnaire was administered to the participants in the control group as well as the experimental group. The questionnaire provided background information on the participant's: age, ethnicity, major, year in school, gender, GPA, and GRE/SAT scores.



The Cross-Cultural Adaptability Inventory (CCAI) (Kelley and Meyers, 1995) was administered to the subjects to assess their cross-cultural effectiveness and self-awareness. Kelley and Meyers (1995) developed the CCAI in order to quantify the dimensions known to be associated with cross-cultural effectiveness and provide a link between theory and practice. The instrument has met the needs of cross-cultural trainers, educators and business people who wanted to assess the traits most associated with cross-cultural adaptability and train for such effectiveness. The four dimensions of the test, Emotional Resilience, Flexibility / Openness, Perceptual Acuity and Personal Autonomy were derived from a review of the theoretical and empirical literature, as well as a survey of cross-cultural practitioners, such as trainers and consultants.

The inventory consists of 50 questions, and individuals rated themselves on a six-point Likert scales on the dimensions of Emotional Resilience, Flexibility/Openness, Perceptual Acuity and Personal Autonomy. Aside from the Self-Assessment form, the Observer form was also used to allow students to rate fellow classmates. This 360 degree feedback form is worded in the third person, and provides an objective behavioral rating about a participant, as well as a comparison between one's self perceptions and those of others along the same dimensions. The results of each sub-scale were plotted on a circular graph, and compared to one another. This provides a comparison of strengths and weakness in these four domains, determines how prepared an individual is to enter another culture and indicates where improvement is needed for a successful transition.

According to the CCAI research, Emotional Resilience measures the degree to which one can bounce back from negative emotions and maintain a positive attitude towards new experiences. It is the largest of the four CCAI scales, containing 18 items. It measures coping with stress and ambiguity, rebounding from imperfections and mistakes, trying new experiences



and interacting with people in new or unfamiliar situations. A sample question designed to measure this construct is "I have ways to deal with the stresses of new situations." Flexibility/Openness consists of 15 items and assesses one's willingness to open up and enjoy different ways of thinking and behaving in a new environment. It measures an interest in unfamiliar people and ideas, tolerance toward others and flexibility with regard to new experiences. A sample Flexibility/Openness subscale question is: "I can enjoy relating to all kinds of people". Perceptual Acuity measures one's interpersonal sensitivity and the ability to accurately perceive cues across cultures. The 10 items of this subscale focus on communication skills, cultural empathy and the accurate interpretation of nonverbal and social cues. A sample question is "I try to understand people's thoughts and feelings when I talk to them." The Personal Autonomy subscale contains 7 items, which measure how one maintains their identity and belief system in an unfamiliar environment with different values. The smallest but most complex scale, Personal Autonomy deals with personal identity and adherence to a strong set of cultural values, as well as respecting the values and traditions of the other culture. An example of a question from this subscale is "I feel free to maintain my personal values, even among those who do not share them."

For all four subscales, participants were asked to answer the questions using the following Likert scale: DNT (Definitely not true), NT (Not true), TNT (Tends to be not true), TT (Tends to be true), T (True), DT (Definitely true). Upon completion of the scale, all participants were asked to a) calculate their own scores by totaling up each score in each column for each of the four subscales and b) based on their total subscale scores chart their self-assessment profile. The Observer form that was also used in the study is identical to the Self-Assessment form but is



worded in the third person. A Profile form was used to visually compare the CCAI selfassessment scores with the observer scores.

Satisfaction. The students' satisfaction with the study abroad program was assessed with a single item scale that ranged from 0 to 100 in 10-unit intervals. Written labels were offered for the following points. 10 (not satisfied), 40(somewhat satisfied), 70(pretty satisfied), and 100 (very satisfied). Each student's score indicated how satisfied they were with their performance. Design and Procedures

A two group experimental design was used to assess the effects of study abroad programs on students' cross-cultural adaptability. The experimental group consisted of all the students enrolled in the study abroad program. The control groups consisted of the all students enrolled in a class offered at the university. On the first day of class students were administered the self-assessment inventory and plot their assessment profile informing them of their strengths and weakness in the four different areas. Within two additional weeks students were administered the observer form of the inventory to complete. Each student filled out an observer form for his or her roommate or classmate. At the end of the program or three weeks later the students in both the experimental and the control group once again filled out the self-assessment inventory. All participants were debriefed following the experiment. All students were offered with the same opportunity to establish contacts with the locals (e.g., trips were scheduled for all students to visit an village; assignments both observations and interviews of locals were designed to increased contact with people from the host country).

Results

The data of this study were analyzed using descriptive statistics and paired t-tests.



First a t-test was performed between the local students and the American students CCAI scores to determine initial or posttest differences. No significant differences were shown. Regarding the students enrolled in the study abroad program, paired t-tests revealed that student's initial scores on all subscales of the Cross-Cultural Adaptability Inventory (CCAI), including the total scores were significantly different following completion of the study abroad program, all ps.=

.01. Specifically, these students scored higher on the second assessment CCAI, following completion of the program, (M =235.76) than during the first assessment, in the beginning of the program (M =202.51). Similar results were found for each of the four subscales. For the Emotional Resilience subscale students scored significantly higher (M=84.15) at the end of the program compared to their initial scores (M=74.74). Regarding the Flexibility/Openness subscale students reported higher scores (M=66.00) than during their initial assessment (M=57.92).

Finally, for the Perceptual Acuity and the Personal Autonomy subscales students reported also significantly higher scores (M=49.54) and (M=36.07) than their initial assessment (M=38.89) and (M=32.08) respectively (see Table 1).

Paired t-tests were also performed to test for significant differences in the initial versus final scores on the CCAI total scores and subscales for the stay at home comparison group. Significant differences emerged between the total scores on the CCAI administered in the beginning of the semester (M=221.90) and the scores of the final administration three weeks later (M=211.36). However, no significant differences were shown for any of the subscales during the three-week period (see Table 2).

Furthermore, to determine whether there were significant differences between the initial overall CCAI scores in the control and experimental groups, a t-test for independent samples showed no significant differences between the two groups. However, there were significant



differences between the two groups in the final CCAI scores following completion of the courses. The experimental group scored significantly higher on the CCAI (\underline{M} = 235.76) than the control group (\underline{M} =211.91), t(22) = 3.09, \underline{p} = .004. The means and standard deviations for each subscale are presented in Table 3.

Finally, t-tests revealed that there were no significant differences between the observer scores and the final assessment conducted by the individual students themselves for the total or the individual subscale scores. This suggests inter-rater reliability between the Assessment Form and the Observer Form. Ruben and Kealey (1979) cite an objective behavioral rating as an important measure of cross-cultural effectiveness. The total score on the CCAI was highly correlated with the students' satisfaction of the program, r = .79, p < .01. Satisfaction with the cross-cultural experience has been defined as a component of an effective cross-cultural adjustment. For example, Ruben and Kealy (1979) described it as "the general psychological well-being, self-satisfaction, contentment, comfort with and accommodation to a new environment after the initial perturbations which characterized culture shock have passed." Black and Mendenhall (1990) also emphasized the maintenance of psychological well-being.

Discussion

The findings of the present study demonstrate that study abroad programs significantly contribute to the preparation of students to function in a multicultural world and promote international understanding for both the local and the American students. These findings are consistent with those of McCabe (1994) and Carlson and Widaman (1988) who found that significant differences in global perspectives, and cultural cosmopolitanism respectively emerged in the study abroad students.



More specifically, despite the small sample size, significant differences were found in the students' attitudes and behaviors that foster international understanding. These differences suggest that the study abroad students increased their ability to deal with the stresses of the cross-cultural experience, and developed more flexible role behavior, cultural empathy and respect for the host culture. According to Searle & Ward (1990) this would translate into a positive attitude, increased psycho-social well-being and the ability to "fit in" or negotiate interactive aspects of the new cultural environment. Students in the study abroad program scored significantly higher on the CCAI scale than the control group who even reported higher initial CCAI scores than the experimental group. These changes in cross-cultural beliefs for both the local and the American students may be attributed to the highly structured environment aimed to promote cross-cultural awareness.

These findings are critical because studies using the same CCAI subscales correlated Emotional Resilience and Flexibility/Openness subscales with fewer psychological and sociocultural adaptation problems and increased psychological well-being (Ward, Berno & Main, 2000). In fact, emotional resilience appeared to be particularly important for psychological adjustment and was associated with fewer symptoms of depression. In addition, the Perceptual Acuity and Personal Autonomy subscales were associated with fewer sociocultural difficulties involving adaptive behavior that included a cognitive component. Study abroad programs may then be beneficial for college students to function in a cross-cultural environment.

Some recommendations for study abroad directors and faculty may be that courses being offered to both American and local students may be a more effective way to enhance the students' cultural awareness, and although not tested in this study, learning. In agreement with Morgan (1975) educators should develop specific objectives that will increase the students'



cross-cultural sensitivity and provide appropriate opportunities to meet these objectives. For example, in this course students were asked to share and exchange opinions on values, traditions, and beliefs that influence one's decision to seek health care. Written reports were orally presented in class. These classrooms activities heightened the students' interest in the material and helped them to understand pertinent issues in health behaviors of people living in multicultural settings.

The CCAI's predictive validity of growth in cross-cultural effectiveness as a result of the educational experience in the study abroad program was demonstrated in this study. This indicates that the CCAI is an effective training tool for cross-cultural effectiveness. It has utility as a pre-departure assessment instrument to provide important information as to a student's strengths and weaknesses, and it provides a format for the skill-development needed to take place to enhance a cross-cultural adjustment. Similarly the CCAI's concurrent validity has received strong support through criterion validation techniques in other studies (see Ward et al, 2000). Thus, the CCAI would be an effective tool in determining the optimal structure of the study abroad classroom.

Future research should use larger samples to investigate changes in students' views and gains in their global perspective. In addition, different educational intercultural experiences provided to the students should be tested to determine their effectiveness on students' crosscultural adaptability. Policy makers in international education would benefit from learning whether the cross-cultural composition or structure of the learning environment further enhance cross-cultural awareness and adjustment.



References

Black, J.S., & Mendenhall, M. (1990). Cross-cultural training effectiveness: A review and a theoretical framework for future research. Academy of Management Review, 15, 113-136.

Carlson, J.S., & Widaman, K.F. (1988). The effects of study abroad during college on attitudes toward other cultures. International Journal of Intercultural Relations, 12 (1), 1-18.

Carsello, C., & Greaser, J. (1976). How college students change during study abroad. College Student Journal, 10, 276-278.

Church, A.T. (1982). Sojourner adjustment. <u>Psychological Bulletin</u>, 91(3), 540-572.

Cui, G., & Van Den Berg, S. (1991). Testing the construct validity of intercultural effectiveness. International Journal of Intercultural Relations, 15, 227-241

Flack, M.J. (1976). Results and effects of study abroad. American Academy of Political and Social Science, 424, 107-117.

Goldstein, D., & Smith D. (1999) The analysis of the effects of experiential training on sojourners' cross-cultural adaptability. <u>International Journal of Intercultural Relations</u>, 23, 157-173.

Hensley, T.R., & Sell, D.K. (1979). A study abroad program: An examination of impacts on student attitudes. <u>Teaching Political Science</u>, *6*, 387-412.

Kelley, C., & Meyers, J. (1995) <u>Cross-cultural Adaptability Inventory</u>. Minneapolis, MN: National Computer Systems.

Kealey, D. J. (1989) A study of cross-cultural effectiveness: Theoretical issues, practical applications. International Journal of Intercultural Relations, 13, 387-428.



McCabe, L.T. (1994). The development of a global perspective during participation in semester at sea: A comparative global education program. <u>Educational Review</u>, 46(3), 275-286.

Montagliani, A., & Giacalone R. (1998). Impression management and cross-cultural adaptation. Journal of Social Psychology, 138, 598-608.

Morgan, E.E., Jr. (1975). Study abroad: A process of adaptation and change.

International Review of Education, 21, 207-215.

Nash, D. (1976). The personal consequences of a year of study abroad. <u>Journal</u> of Higher Education, 47(2), 191-203.

Ruben, B.D., & Kealey, D.J. (1979). Behavioral assessment of communication competency and the prediction of cross-cultural adaptation. <u>International Journal of Intercultural Relations</u>, 14, 3, 15-47

Searle, W., & Ward, C. (1990). The prediction of psychological and sociocultural adjustment during cross-cultural transitions. <u>International Journal of Intercultural Relations</u>, 14, 449-464.

Sell, D.K. (1983). Research on attitude changes in U.S. students who participate in foreign study experiences: Past findings and suggestions for future research. <u>International</u> Journal of Intercultural Relations, 7, 131-147.

Ward, C., Berno, T., & Main, A. (2000). Can the <u>Cross-Cultural Adaptability Inventory</u> predict sojourner adjustment? Paper presentation at the XVth International Congress of the International Association for Cross-cultural Psychology, Pultusk, Poland, July 16-21.

Ward, C., & Chang, W. (1997). "Cultural fit:" A new perspective on personality an sojourner adjustment. International Journal of Intercultural Relations, 21, 525-533.

Ward, C., & Kennedy, A. (1993). Psychological and sociocultural adjustment



during cross-cultural transitions: A comparison of secondary students at home and abroad.

International Journal of Psychology, 28, 129-147.

Ward, C., & Kennedy, A. (1996). Before and after cross-cultural transition: A study of New Zealand volunteers on field assignments. In H. Grad, A. Blanco & J. Georgas (Eds.), <u>Key</u> issues in cross-cultural psychology (pp. 138-154). Lisse, the Netherlands: Swets & Zeitlinger.



Table 1. Means and Standard Deviations of CCAI Scores for the Experimental Group

	Groups						
Variable	_		Experi	mental group	(N=13)		
Total CCAI Scores	Before	<u>}</u>	After			t	p
	$\frac{\underline{M}}{\underline{SD}}$	202.51 13.35		235.76 12.56		-8.95	.001
Emotional Resilience Scores	3						
	$\frac{\underline{M}}{\underline{SD}}$	73.62 8.31		84.15 5.54		-6.25	.001
Flexibility/Openness Scores							
	$\frac{M}{SD}$	57.92 3.35		66.00 6.82		-3.90	.002
Perceptual Acuity Scores			•				
	M SD	38.89 3.46		49.54 4.20		-6.80	.001
Personal Autonomy Scores							
	M SD	32.08 4.07		36.07 2.52		-3.26	.007



Table 2. Means and Standard Deviations of CCAI Scores for the Control Group

Control Group

Variable	Contro	ol (N=11)			
Total CCAI Scores		Before	After	t	p
Total COTH Secrets	$\frac{\underline{M}}{\underline{SD}}$	211.36 13.64	221.90 8.61	-2.31	.05
Emotional Resilience Scores	<u> </u>				
	$\frac{\underline{M}}{\underline{SD}}$	81.55 8.54	84.09 7.62	-1.31	.22
Flexibility/Openness Scores					
	$\frac{\underline{M}}{\underline{SD}}$	57.09 8.31	62.09 2.81	-1.83	.73
Perceptual Acuity Scores					
	$\frac{\underline{M}}{\underline{SD}}$	38.63 3.40	41.36 4.60	-2.17	.06
Personal Autonomy Scores					
	$\frac{\underline{M}}{\underline{SD}}$	34.09 2.51	34.36 2.06	36	.73



Table 3. Means and Standard Deviations of CCAI Scores for the Control and Experimental Groups

Groups Control Experimental Variable t p **Total CCAI Scores** First Assessment 211.36 202.51 -1.60 .123 SD 13.35 13.64 235.76 3.09 .001 Final Assessment 221.91 M SD 12.56 8.60 **Emotional Resilience Scores** First Assessment 73.62 -2.30 81.55 .03 M SD 7.62 8.54 M 84.09 84.15 .23 .98 Final Assessment SD 8.31 8.31 Flexibility/Openness Scores First Assessment 57.09 57.92 .33 .74 M SD 5.53 8.31 62.09 66.00 1.77 .09 Final Assessment M SD 2.81 6.82 Perceptual Acuity Scores First Assessment 38.63 38.89 .184 .86 M SD 3.40 4.60 Final Assessment M 41.36 49.54 4.56 .001 SD 4.60 4.20 Personal Autonomy Scores First Assessment 34.09 32.08 -1.43 .17 M SD 4.07 2.51 1.79 .08 Final Assessment M 34.36 36.07



2.06

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